CASE
CONSTRUCTION

WHEEL LOADER
1221E

Engine Horsepower	250 kW/335 hp
Operating weight (max.)	30 020 - 30 940 kg
Bucket capacity	4.80 - 7.00 m^3

EXCEPTIONAL COMFORT

The E series cab is isolation mounted for reduced noise and vibration, making it one of the quietest in the industry. Fully adjustable steering column, suspension seat, and arm and wrist rests provide exceptional operator comfort. Floor to ceiling glass improves visibility to the jobsite. Plus the 1221E wheel loader is among the quietest in the industry.
Superior comfort. Exceptional visibility.

EFFICIENT POWER

The 1221E is powered by an electronically-controlled, Euro III compliant Cummins 11 litre engine. This fuel efficient motor provides 320 net hp and strong torque from low revs, ensuring maximum penetration into the pile and a high bucket fill factor, boosting productivity and reducing ownership costs.
Maximum output. Reduced emissions.

ESSENTIAL MAINTENANCE

With fluid sight gauges on all reservoirs, all daily checks can be performed from ground level, increasing safety for the operator and reducing downtime prior to work. Remote drains for the coolant, engine and hydraulic oil provide fast, convenient fluid changes lowering the risk of environmental contamination. Remote grease fittings help make the machine's daily maintenance tasks easy. Extended service intervals and ease of maintenance result in lower ownership costs and improved productivity.
Easy access. Reduced downtime.

ENHANCED VISIBILITY

The cab's large glass area, and the engine air pre-cleaner placed in line with exhaust stack ensure maximum visibility all around the machine. Full height glazing to the front and sides of the cab provides an excellent view to the front wheels and the attachment, increasing productivity and reducing operator effort.
Panoramic view. Increased safety.

ERGONOMIC CONTROL

An optional Ride Control system is available to reduce shock loading and bounce in the loader arm. This results in a smoother ride for the operator and increased load retention in the bucket. Ride Control increases operating speed and reduces cycle times for intensive load and carry operations. An auto mode engages Ride Control at speeds over 9.5 km/h automatically when set, allowing the operator to focus on driving the machine.
Load retention. Operator comfort.

EXTRA BREAKOUT

The 1221E is equipped with a robust Z-bar loader linkage design for maximum breakout force. An XR linkage is available for higher dump clearance and increased reach. Powerful hydraulics deliver superior breakout and lift forces, reducing cycle times and boosting productivity. Single loader controls incorporate transmission selection buttons for fingertip control of the machine.
High performance. Total control.

ENGINE

The 1221E is powered by a Tier III compliant 11 litre Cummins engine, delivering a maximum output of 320 net hp (239kW). Electronic control with high fuel injection pressures ensure cleaner, more efficient burning, resulting in maximum output with greatly reduced exhaust emissions and fuel consumption. The machine is compatible with the Case electronic service tool (EST) for rapid diagnostics and minimum downtime.

DRIVETRAIN

A torque sensing autoshift transmission, with a choice of manual or fully automatic control, delivers the power to both drive axles. Those axles both incorporate limited slip differentials, ensuring maximum traction when digging and loading, which combined with high torque at low revs provides an easy fill and high penetration to the stockpile. The disc brakes are oil cooled for maximum retardation and reduced heat build-up, prolonging brake component life and reducing ownership and service costs. The machine's low effort loader control lever puts total control at the operator's finger tips, with a quick shuttle switch for rapid directional changes.

RIDE CONTROL

As a leader in ergonomic design, all Case wheel loaders can be specified with Ride Control, a system that allows the lift arms to float while the machine is moving. Ride Control reduces shock loadings in the machine, and the bounce that is felt in the cab, reducing fatigue for the operator and prolonging component life. Ride Control allows the operator to drive at higher speeds during load and carry operations, improving load retention of material and boosting productivity.
Selectable ride control settings include "always on", "always off", or "automatic", that automatically engages Ride Control when the machine accelerates above 9.5 km/h.

OPERATOR'S CAB

The 1221E benefits from a roomy working space, the cab has a flat floor for ease of cleaning and full height glazing for maximum visibility all around the machine. An adjustable, telescoping steering column and a fully adjustable operator's seat ensure that any operator can stay comfortable and fatigue-free through the working day.
Easy to read analog gauges and a digital display provide comprehensive information about machine settings and diagnostics. The quiet, comfortable cab also includes a climate control system that provides exceptional heating and cooling on-demand.

SERVICE AND MAINTENANCE

Wide opening doors and pull down lower covers provide an excellent level of service access. All daily check points, filters and remote drain plugs can be easily reached from ground level, making life easier for the service engineer and reducing downtime for regular maintenance.
A hydraulically driven fan offers a reversing function to blow dust and debris from the cooling pack in dry operating conditions. All coolers can be easily accessed for cleaning and visual checks. Centrally located greasing points provide easy access and bucket pin seals prevent debris infiltration, prolonging component life. The Case 1221E is fully compatible with the Case EST electronic service tool system, providing rapid diagnostics and fault checking to minimise downtime. All electronic components are centrally located within the cab to ensure that they remain clean and out of harm's way.

VISIBILITY

Pillarless top to bottom glazing to the front and both sides of the cab offers an excellent view of the bucket corners or attachment. Powerful windscreen wipers keep the main window clear in all weathers and the fenders prevent muck from the wheels being thrown onto the windows.
Slim cab pillars provide high levels of visibility to the rear three-quarters of the 1221E. This is essential for a wheeled loader operator in a stocking and loading operation, promoting safety in all operating conditions.
A rear windscreen wiper is standard, ensuring that the view to the rear of the machine stays clear whatever the weather. Optional rear view camera systems can be fitted to the machine to further improve safety in mineral extraction operations.

LOADER ARMS

The Case 1221E is equipped with robust Z-bar loader geometry that allows high material retention and powerful digging forces. For loading applications that require additional reach and dump height an XR linkage is available that boosts reach and clearance throughout the digging cycle.
In standard Z-bar configuration the machine offers a powerful 22,550 kg of breakout force, with an exceptional 31,690 kg lift capacity, when equipped with a standard 5.7 m^3 bucket.

1221E

122E

SPECIFICATIONS

ENGINE

Model _____ Cummins QSM 11, Tier III Certified
Type _____ 4-stroke, turbocharged and air-to-air cooled
Cylinders _____ 6
Bore/Stroke _____ 125 mm x 147 mm
Displacement _____ 10.8 l
Fuel injection _____ Electronic
Fuel _____ #2 Diesel
Fuel filter _____ Replaceable, full flow spin-on cartridge
Fuel cooler
Air filter _____ Dry type element w/warning restriction indicator
Fan - Hydraulic drive
Style _____ 8 blade
Water pump _____ Integral
Engine oil
Pump operating angles
Side-to-side _____ 45°
Fore and aft _____ 45°
Oil filtration _____ Replaceable, full flow, spin-on cartridge
Engine speeds (rpm)
Rated speed, full load _____ 2000
Horsepower
Peak _____ 365 (272 kW) @ 1800 rpm
Rated
Gross _____ 335 (250 kW) @ 2000 rpm
Net _____ 320 (239 kW) @ 2000 rpm
NOTE: Gross horsepower and torque per SAE J1995. Net horsepower and torque per SAE J1349.
Torque - Peak _____ 1674 Nm @ 1400 rpm
Torque rise
Standard power _____ 40%

DRIVETRAIN

Transmission _____ 4F/3R Proportional w/Electronic Control Module torque sensing autoshift/manual shift and modulation
Gears _____ Helical cut

Gear ratios	Forward	Reverse
1st	4.187	4.187
2nd	2.207	2.207
3rd	1.384	0.970
4th	0.608	NA

Torque converter
Stall ratio _____ 2.987:1
Differential _____ Limited slip w/30% transfer on front w/45% transfer on rear axles
Rear axle oscillatio _____ 26° total
Front and rear axle
Differential ratio _____ 4.25
Planetary ratio _____ 6.35
Final axle ratio _____ 27.00
Planetaries _____ Outboard
Service brakes _____ Hydraulically actuated, shaft speed brakes and maintenance-free, multiple wet disc to all four wheels, w/accumulator for each axle
Parking brakes _____ Spring-applied hydraulic release disc on transmission output shaft
Travel speeds - mph (km/h) w/29.5 X 25 L3 Tires

	Forward	Reverse
1st	3.9 (6.2)	3.9 (6.2)
2nd	7.1 (11.4)	7.1 (11.4)
3rd	10.9 (17.5)	14.7 (23.6)
4th	21.1 (34.0)	NA

NOTE: Travel speeds at full engine throttle.

ELECTRICAL

Voltage _____ 24 Volts, negative ground
Alternator _____ 70 amp
Batteries _____ (2) 12 volt

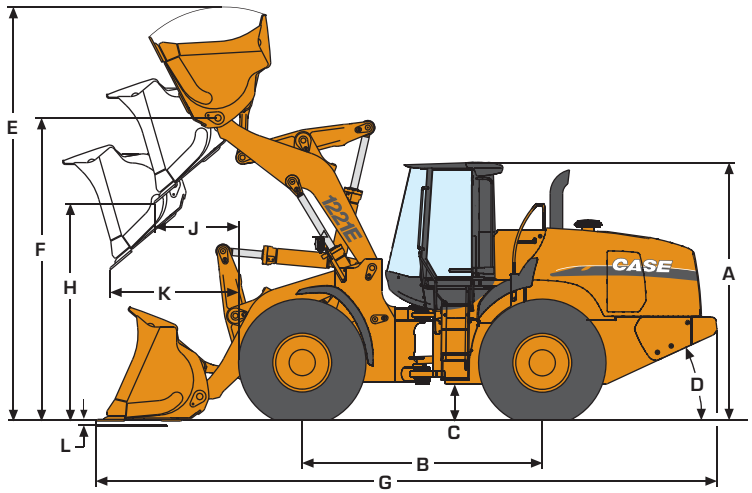
HYDRAULICS

Type _____ Open-centered, tandem circuit system. Pilot-operated controls. Closed with pressure and vacuum relief.
Pump _____ Vane type, 482 liters/min @ governed rpm
Control Valve _____ Two function valve with single or two lever controls : Optional third-function valve with auxiliary lever.
Relief valve _____ 210 kg/cm²
Pilot system
Type ___ Pilot oil pressure is generated by the pilot oil supply unit
Relief valve _____ 30 kg/cm²
Bucket controls
Type _____ Pilot operated lift and tilt circuit, single-lever (joystick) control standard.
Lift circuit _____ The valve has four functions; raise, hold, lower and float. Can adjust automatic kickout from horizontal to full lift.
Tilt circuit _____ The valve has three functions; tilt back, hold and dump. Can adjust automatic bucket positioner to desired load angle.
Cylinder
Type _____ Double acting
Lift, bore x stroke _____ 200 mm x 863 mm
Tilt, bore x stroke _____ 160 mmx 580 mm
Cycle time
Raise: _____ 6.4 sec (with load)
Dump _____ 1.4 sec
Lower _____ 3.0 sec (empty)
Total _____ 10.8 sec

CYLINDERS

Lift cylinder
Bore diameter _____ 200 mm
Rod diameter _____ 110 mm
Stroke _____ 863 mm

GENERAL DIMENSIONS



DIMENSIONS

A	Height to top of ROPS cab	m	3.84
B	Wheelbase	m	3.70
C	Ground clearance	mm	510
D	Rear angle of departure	m	23°
	Drawbar		1.9
	Width		
	Overall* w/o bucket	m	3.22
	Centerline tread	m	2.44
	Turning radius* - outside	m	7.59
	Turning angle		
	From center		40°
	Total angle		80°
	Rear axle oscillation, total		26°

NOTE: *Dimensions taken with 29.5 x 25 XHA tires.

PERFORMANCE DATA

			1221E Z-Bar		1221E XR
			5.8 m^3 Bucket w/Bolt-on Edge	5.1 m^3 Bucket w/Bolt-on Edge	5.1 m^3 Bucket w/Bolt-on Edge
	SAE bucket capacity - heaped	m^3	5.8	5.1	5.1
	Bucket width - outside	m	3.45	3.45	3.45
	Bucket weight	kg	2800	2590	2590
E	Operating height - fully raised w/spillguard	m	6.34	6.20	6.62
F	Hinge pin height - fully raised	m	4.55	4.55	4.96
G	Overall lenght - bucket level on ground	m	9.69	9.56	10.01
	Dump angle - fully raised		47°	47°	47°
H	Dump height - fully raised, 45° dump	m	3.23	3.33	3.75
J	Bucket reach - fully raised, 45° dump	m	1.43	1.34	1.40
K	Bucket reach - 2.13 m height, 45° dump	m	2.04	2.10	2.41
	Operating load - ISO	kg	10 905	11 040	9305
	Maximum material density - ISO	kg/m^3	1721	1987	1779
	Tipping load - ISO				
	- straight	kg	25 320	25 610	21 800
	- 40° turn	kg	21 810	22 080	18 850
	Lift capacity				
	Full height	kg	13 070	13 052	-
	Maximum reach	kg	21 450	21 438	-
	Ground	kg	31 090	31 683	-
	Breakout force w/ tilt cylinder	kg	22 550	24759	21 881
	Maximum rollback				
	- Ground		41°	42°	41°
	- Carry position		47°	48°	49°
	- @ Maximum reach		67°	67°	64.1°
	- @ full height		63°	63°	66.4°
L	Dig depth	mm	60	60	73
	Maximum grading angle w/ bucket - back dragging		60.7°	60.9°	60.6°
	Loader clearance circle	m	15.25	15.17	15.66

NOTE: Performance data unit equipped with 29.5 x 25 XHA tires, ROPS cab w/heater and A/C, standard counterweight, standard batteries, wide front and rear fenders, full fuel and 79 kg operator. Specifications per SAE J732, J1234, J695, J742, and J818.

121E

STANDARD EQUIPMENT & OPTIONS

STANDARD EQUIPMENT

Operator environment
- ROPS cab w/ heat
- Key start
- Articulated power steering w/adjustable tilt and telescoping steering column
- Fully adjustable, suspension seat
- Foot throttle
- Single lever 2-spool loader control w/wrist rest
- Cup holder
- (2) Interior rearview mirror
- 76 mm retractable seat belt
- Storage tray
- Single brake pedal
- F/N/R shuttle switch
- Pressurized air filtering
- Anti-glare window strip
- Defroster
- Side window, partial/fully open
- Dome light
- Wipers, rear and intermittent front
- Windshield washers, front and rear
- Rubber floor mat
- Sunscreen
- 12V Power outlet

Engine
- Cummins QSM 11
- Tier III certified
- Turbocharger
- Charged air cooling
- Automatic fan belt tensioner
- Integral engine oil cooling
- Fuel filter w/water trap
- Dual element air cleaner
- 70 amp alternator
- (2) 100 CCA 12-volt batteries
- Liquid-cooled radiator
- Non spark-arresting muffler
- Grid heater
- Fuel heater

Loader
- Z-bar loader linkage
- Single control for lift and tilt
- Positive hold float
- Automatic return-to-travel
- Brake pedal transmission disconnect

Drivetrain
- 4-wheel drive
- Axle coolers
- 4F/3R Selectable autoshift/manual shift transmission
- Electronic Control Module - Programmable, computer controlled proportional shifting with programmable gear selection
- Onboard diagnostics
- Single lever electronic shift control
- F/N/R switch in loader control handle
- Downshift button
- Torque converter
- Outboard planetary axles
- Limited-slip differentials
- Transmission oil cooler
- Brake pedal transmission disconnect
- Hydraulic wet disc brakes
- Spring-applied hydraulic release parking brake

Hydraulics
- 3-spool joystick and auxiliary control lever
- Low-effort steering
- Hydraulic driven fan
- Reversing fan
- On board diagnostics with fault code storage and retrieval

Other
- Front and rear fenders
- Lights - (2) Front driving headlights (high/low beam) (2) Stop/tail lights
- Front and rear turn signal/flash
- Standard counterweight
- Drawbar hitch
- Articulation locking bar
- Lift and tie-down points - front/rear
- Backup alarm
- LH/RH steps and platform
- Heated outside mirrors

OPTIONS

Operator compartment
- Heated, cloth-covered air-suspension seat
- Cab air-conditioning w/heater
- CD player
- Sliding side cab window
- Fire extinguisher
- (2) Cab lights front
- (2) Cab lights rear
- Rotating beacon
- Second brake pedal

Loader
- XR configuration

Hydraulics
- Ride Control
- Secondary steering
- 3-spool loader valve with 3-lever loader control

Tires
- 29.5 R25 L3 Radial
- 29.5 R25 L5 Radial

Other
- Tool box
- Sound Shield noise suppression package

Form No. 2606109GB - Printed in Italy - LEADER Firenze - 09/08

Standard and optional equipment shown can vary by country.

Worldwide Case Construction Equipment Contact Information

EUROPE/AFRICA/MIDDLE EAST:
Centre D'affaires EGB
5, Avenue Georges Bataille - BP 40401
60671 Le Plessis-Belleville - FRANCE

NORTH AMERICA/MEXICO:
700 State Street
Racine, WI 53404 U.S.A.

LATIN AMERICA:
Av. General David Sarnoff 2237
32210 - 900 Contagem - MG
Belo Horizonte BRAZIL

ASIA PACIFIC:
Unit 1 - 1 Foundation Place - Prospect
New South Wales - 2148 AUSTRALIA

CHINA:
No. 29, Industrial Premises, No. 376.
De Bao Road, Waigaoqiao Ftz, Pudong,
SHANGHAI, 200131, P.R.C.

CASE Customer Assistance 00800-2273-7373

The call is free from a land line. Check in advance with your Mobile Operator if you will be charged.

NOTE: Standard and optional fittings can vary according to the demands and specific regulations of each country. The illustrations may include optional rather than standard fittings - consult your Case dealer. Furthermore, CNH reserves the right to modify machine specifications without incurring any obligation relating to such changes.

CE

Conforms to directive 98/37/CE

CASE Construction Equipment
CNH UK Ltd
Unit 4,
Hayfield Lane Business Park,
Field Lane, Auckley,
Doncaster,
DN9 3FL
Tel. 00800-2273-7373
Fax +44 1302 802829

www.casece.com

CASE CONSTRUCTION